

What is claimed is:

1. A prosthesis for surgical implantation into a bone, comprising:
 - a first fixation element consisting of a hollow tubular element having a first section with a smooth outer surface and a second section having an upper surface and a threaded outer surface, capable of threadedly engaging the interior surface of a bone;
 - a sleeve having an outer surface and an opening through said sleeve sized to accommodate said outer surface of said first section of said tubular element;
- 10 and a rod element having an elongated shank and terminating in an angular stem, said elongated shank sized to fit within said hollow tubular element of said first component such that rotation between said rod element and said first fixation element is prevented.
2. The prosthesis of claim 1, wherein said outer surface of said sleeve contains a region which is textured to promote bone ingrowth.
- 15 3. The prosthesis of claim 2, wherein said region is coated with a bone growth promoting material.
4. The prosthesis of claim 1, wherein said rod element contains a collar between said elongated shank and said angular stem to engage said outer surface of said sleeve.
- 20 5. The prosthesis of claim 1, wherein the outer surface of said elongated shank of said rod element and the interior surface of said hollow tubular element have complementary generally cruciform shapes.
6. The prosthesis of claim 1, wherein said sleeve is composed of titanium.

7. The prosthesis of claim 1, wherein said sleeve contacts the upper surface of said second section of said first fixation element.
8. A prosthesis for surgical implantation into a bone, comprising:
 - an fixation element having an elongated first section, including a first aperture with a threaded inner surface and a second section having a threaded outer surface capable of threadedly engaging the interior surface of a bone;
 - a sleeve having an upper surface, terminating in an angular stem, a recess in said upper surface containing a second aperture aligned with said first aperture of said fixation element, and a lower surface, having an opening within said sleeve sized to accommodate said first section of said fixation element;
 - and a threaded fastener, capable of passing through said second aperture in said recess of said sleeve to threadedly engage said first aperture in said element.
9. The prosthesis of claim 8 wherein said second section of said element is composed of a solid material.
10. The prosthesis of claim 8, wherein said second section of said element is hollow.
- 20 11. The prosthesis of claim 8, wherein the outer surface of said elongated first section of said fixation element and said opening in said sleeve each contain complementary polygonal shapes.
12. The prosthesis of claim 8, wherein the outer surface of said elongated first section of said element and said opening in said sleeve each contain 25 complementary elliptical shapes.

13. A prosthesis for surgical implementation within a bone to repair a fracture comprising:

a fixation disc having a threaded outer surface capable of threadedly engaging the interior surface of a bone, and also having an opening through

5 said disc containing a threaded interior surface;

and an elongated rod having a first enlarged section, located toward one end of said rod, having a threaded outer surface capable of threadedly engaging the interior surface of a bone, and a second section toward the other end of said rod having a threaded outer surface capable of threadedly

10 engaging said threaded interior surface of said fixation disc;

such that when said first enlarged section of said elongated rod threadedly engages the bone on one side of the fracture, said fixation disc may be threaded onto said second section of said rod while threadedly engaging the bone on the opposite side of the fracture to pull the bone

15 together at the fracture site.

14. The prosthesis of claim 13, wherein said threaded outer surface and threaded interior surface of said fixation disc and said threaded second section of said rod each contain left handed threads.

15. The prosthesis of claim 13, wherein said threaded outer surface of said 20 disc and said threaded outer surface of said first section of said rod contain self tapping threads.

16. The prosthesis of claim 13, further comprising a pair of screws which are installed through said bone and also through said elongated rod near its ends to prevent said prosthesis from rotating within said bone.

17. The prosthesis of claim 2, wherein said textured region comprises an array of beads.
18. The prosthesis of claim 2, wherein said textured region comprises an array of fibrillar wires.
- 5 19. The prosthesis of claim 2, wherein said region is coated with a bone growth promoting material.